

THRIPS ORYZAE, SP. NOV., INJURIOUS TO RICE IN INDIA.

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Up to the present time no single species of the cosmopolitan genus *Thrips* has been recorded from the mainland of India. In fact our knowledge of the Thysanoptera of this country is extremely fragmentary. Schmutz in 1913 (Sitzb. der K. Akad. Wissensch. in Wien, Math-nat. kl. cxxii, p. 1-99) described forty-four species from Ceylon, and since that time about a dozen more have been added, and no doubt many of these will be found to occur on the mainland. At present, however, only seven species are recorded. These are: *Physothrips lefroyi*, Bagnall, *Physothrips usitatus*, Bagnall, *Heliothrips indicus*, Bagnall, *Panchaetothrips indicus*, Bagnall, *Hindsiana apicalis*, Bagnall, *Phoxothrips breviceps*, Bagnall, and *Leeuwenia indicus*, Bagnall. It is probably no exaggeration to say that there are at least two thousand species in that country still awaiting discovery.

The present species *Thrips oryzae* is reported by Mr. E. Ballard, the Government Entomologist at Madras, to be injurious to young rice. It comes in that section of the genus *Thrips* with the head almost as long as wide, and with a more slender prothorax. Many of this section have been placed at times in the genus *Bagnallia*, but the line of separation of these forms from those with broader heads is so indistinct that the erection of another genus for them only causes further difficulty. I propose that, for the present at least, *Bagnallia* be considered as a subgenus of *Thrips*.

The genus *Thrips* is in almost greater confusion than any other genus of this order, many species having been badly described by writers without reference to known species. The only course under the circumstances is to describe the species below as new, and so that it can be recognised, and to wait for the time when the rediscovery or rejection of certain forms makes a revision of the whole genus possible.

Thrips (*Bagnallia*) *oryzae*, sp. nov. (fig. 1).

FEMALE (macropterous).

Measurements: Head, length 0.110 mm., width 0.120 mm.; prothorax, length 0.130 mm., width 0.146 mm.; pterothorax, length (mid dorsally) 0.172 mm., width 0.208 mm.; 9th abdominal segment, length 0.080 mm.; 10th segment, length 0.052 mm.; wing, length 0.66 mm., width 0.046 mm.; total body length 1.04 mm.

Antennae, segment	1	2	3	4	5	6	7
length (μ)	21	31	36	30	29	37	19
width (μ)	27	27	19	18.5	18	18	8

Total length of antenna 0.210 mm.

Colour. Body uniformly dark brown; legs similar, except for the fore tibiae and all tarsi, which are paler but still brown; antennal segments 1 and 5-7 dark, 2 and 4 paler, 3 still paler; ocellar pigment reddish brown. General form slender.

Head (fig. 1, a) about one-tenth wider than long, the sides almost parallel, cheeks not arched. *Eyes* not large, very slightly projecting, distance between the eyes about one and a half times the width of the eye; distance from the eye to the back of the head about one and a quarter times the length of the eye. *Ocelli* forming a slightly

obtuse-angled triangle, the anterior ocellus directed forward. Ocellar spines short and weak, outside the line joining the anterior and posterior ocelli; a longer spine on the frons near the margin of each eye; a spine behind each posterior ocellus, and a row of one long and about three short ones behind each eye. The hind part of the head distinctly striated; the hind margin heavily chitinised. The *mouth-cone* very long, reaching right across the prosternum. The *maxillary palps* rather long, three-segmented, the basal segment the longest; relative lengths of the segments approximately 8:4:6; about four sense hairs at the apex of the third segment.

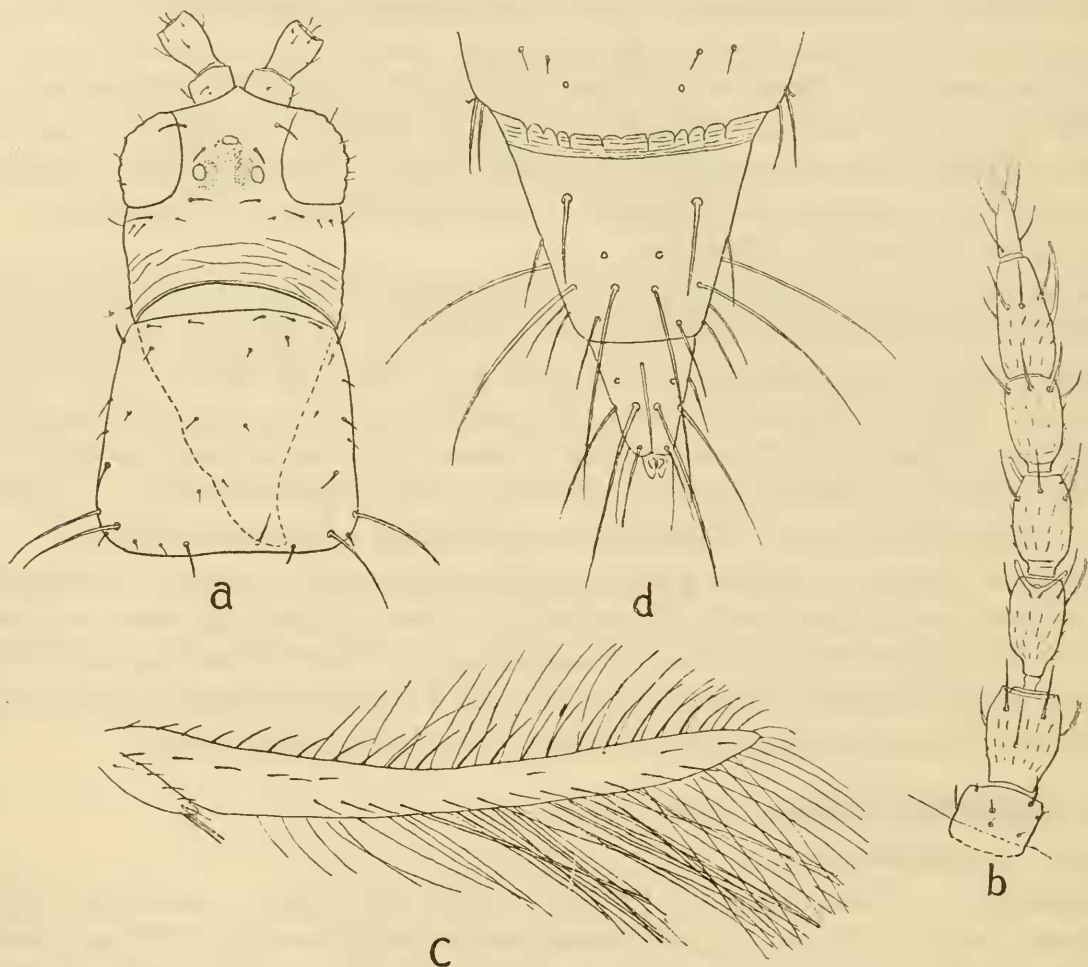


Fig. 1. *Thrips oryzae*, Williams, sp. n.; a, head and prothorax; b, antenna; c, fore wing; d, apex of abdomen, dorsal view.

Labial palps two-segmented, the basal segment very short. *Antennae* (fig. 1, b) not quite twice as long as the head, rather stout. The first segment short and broad; the second almost as wide but longer, tapering at each end, but more so at the base; the third much narrower and with a distinct pedicel; the fourth a little shorter than the third, rapidly constricted just above the base; the fifth with a broad apex and constricted at the base as in the fourth; the sixth as long as or very slightly longer than the third (with the pedicel); the seventh half as long as the sixth and twice as broad as long. Forked trichomes on the third segment dorsally and the fourth ventrally. Colour: the first, fifth, sixth and seventh segments uniformly about as dark as the body, the second and fourth a little paler, particularly the apex of the former, the third still a little paler, especially towards the base.

Prothorax (fig. 1, *a*) about one-fifth longer and wider than the head. Two long spines at each hind angle; three short ones on each side of the hind margin, the innermost longer than the others; the anterior marginal spines not noticeably longer than the small spines which are scattered over the pronotum. *Pterothorax* normal, the meso-scutum twice as long as the scutellum. *Legs* normal, fore tarsi unarmed; as dark as the body, except the tarsi and fore tibiae, which are very slightly paler. *Wings* fully developed, pointed at the tip, fore wing (fig. 1, *c*) about 14 times as long as wide at the middle. Veins in the fore wing very indistinct. On the costa 21–24 spines; on the fore vein 5–7 near the base and 3 in the outer portion, the proximal one somewhat widely separated from the other two; on the hind vein 11–13; the spines are long and pointed, particularly on the outer half of the costa. The costal fringe commences about one-third the wing length from the base. The posterior fringe at its greatest length is about six times the breadth of the wing. Colour uniformly dark brown, except for an elongate paler fleck near the base; all spines on the wing dark. Hind wings also brown in colour, but paler than the fore pair; the longitudinal vein very distinct and reaching almost to the tip of the wing.

Abdomen slender; the ninth segment long, 1.6 times as long as the tenth (fig. 1, *d*); terminal spines slender. A row of short pointed teeth on the hind margin of the eighth tergite, usually incomplete mid-dorsally.

Numerous females (no males) taken "on very young paddy (*Oryza sativa*), Madurantakam, S. India, 2nd–7th May 1915, by T. V. Ramakrishna Ayyar."

Type in the British Museum.

The chief characteristics by which this species may be recognised are the slender head and prothorax, the long mouth-cone, the dark wings and the long ninth abdominal segment. It may even be necessary at some future time to separate it from the bulk of the genus *Thrips*, more particularly if forms resembling it are found when the Indian fauna is better known, but for the present it comes nearest to this group and is best left with them.

The material sent included a number of short pieces of young rice stems imbedded in which were a number of *eggs* of this thrips; they are of the usual kidney shape and are 0.25 mm. long and 0.10 mm. broad.

Numerous *larvae* were also present, pale yellowish white in colour, with slightly darker legs, head and antennae. *Pupae* and *prepupae* differed in having the legs and antennae paler than the body and in having four long pointed processes from the hind margin of the ninth tergite. The prepupae have, as is usual in the group, the antennae free and short wing cases reaching about one-third the length of the abdomen; the pupa has the antennae applied to the dorsal surface of the head and the wings reaching over two-thirds the length of the abdomen.

The only other thrips so far recorded as damaging rice are two species of a different suborder (TUBULIFERA) from Japan, described by M. Matsamura (Annot. Zool. Japan, iii, 1899, pp. 1–4). They are *Haplothrips* (nec *Phloeothrips*) *oryzae* and *H. japonica*. They may be easily separated from the present species by the abdomen ending in a tubular tenth segment without any ovipositor.
